

# NASA TECH BRIEF



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## Coded Photographic Proof Paper Could Serve as Convenient Densitometer

Standard print-out proofing paper, commonly used in commercial portrait photography, can be pre-printed with an identifying code that will convert the paper into a convenient exposure sensor. This "exposure meter" or "densitometer" would be made by printing onto the sensitive proof paper (in the dark) a series of letters or numbers of graduated density corresponding to that of the photographic images that would be produced on the paper at different exposures. When this coded paper is exposed to a light source, the paper darkens in proportion to the amount of exposure and would thereby obliterate the code symbols in sequence. Thus, the symbol that just disappears at any instant would give a measure of the density of the resultant photographic image or the total amount of exposure sustained by the paper. No chemical processing is required for this print-out paper. The photographic image becomes visible with

exposure. It is to be noted that the image on this type of paper is not permanent.

### Notes:

1. With appropriate calibration, the coded print-out paper might be useful as a suntan exposure indicator.
2. Any type of paper which is sensitive to progressive measurable changes in a given medium could, in principle, be coded to give a visual indication of the magnitude of the change. Typical examples are impregnated papers used to monitor carbon monoxide concentration and hydrogen ion (pH) concentration.

### Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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Category 02

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Abstract: This paper describes a method for the detection of surface defects on a curved surface. The method is based on the use of a laser light source and a camera. The laser light is directed at the surface and the reflected light is captured by the camera. The camera is positioned at a distance from the surface such that the reflected light forms a focused image on the camera's sensor. The image is then processed to detect any surface defects.

## Coded Photographic Photo Paper Could Serve as Convenient Transmittal

Abstract: A new type of photographic paper, called "photo paper," has been developed by the National Aeronautics and Space Administration (NASA). This paper is designed to be used as a convenient transmittal for the transmission of data from a spacecraft to Earth. The paper is made of a special material that allows it to be used in a variety of environments, including in the presence of high temperatures and high pressures. The paper is also designed to be easy to handle and to be resistant to damage. The paper is currently being tested in a variety of environments, and it is expected that it will be used in a variety of spacecraft in the near future.